What Is Claimed Is:

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independent virtual machine.

1	1. A method for redirecting external memory allocation operations,
2	generated during calls by an application to external library functions, to an
3	internal memory manager within the application, comprising:
4	encountering a call to an external library function during execution of the
5	application;
6	determining if the external library function can call to an internal memory
7	allocation function within the application; and
8	if so, redirecting the call to the internal memory allocation function.
1 2 3 4	2. The method of claim 1, wherein the task of determining if the external library function can call an internal memory allocation function involves reading a pre-determined indicator value, which indicates whether the external library function can call the internal memory allocation function.
1 2 3 4 5 6	3. The method of claim 2, further comprising pre-determining a value for the pre-determined indicator value by examining the external library function to determine whether the external library function or a function called by the external library function will call a memory allocation function, and whether there are problematic references to external memory blocks allocated by the external library function.
1	4. The method of claim 1, wherein the application is a platform-

1	5. The method of claim 1, wherein the application runs in single-
2	threaded mode on a computing device.
	The state of a memory's
1	6. The method of claim 1, wherein the application runs on a memory-
2	constrained computing device.
1	7. The method of claim 1, wherein redirecting the call to the internal
2	memory allocation function involves executing an interpose function that calls the
3	internal memory allocation function.
1 2	8. The method of claim 1, further comprising periodically garbage collecting the memory allocated by the internal memory allocation function.
1	9. The method of claim 1, wherein the internal memory allocation
2	function allocates memory in a heap.
1 2 3 4 5	10. A computer-readable storage medium storing instructions that when executed by a computer cause the computer to perform a method for redirecting external memory allocation operations, generated during calls by an application to external library functions, to an internal memory manager within the application, the method comprising:
6	encountering a call to an external library function during execution of the
7	application;
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9	allocation function within the application; and
10	if so, redirecting the call to the internal memory allocation function.

1	11. The computer-readable storage medium of claim 10, wherein the
2	task of determining if the external library function can call an internal memory
2 3	allocation function involves reading a pre-determined indicator value, which
4	the state of the system of library function can call the internal memory
5	allocation function.

- 1 12. The computer-readable storage medium of claim 11, wherein the 2 method further comprises pre-determining a value for the pre-determined 3 indicator value by examining the external library function to determine whether 4 the external library function or a function called by the external library function 5 will call a memory allocation function, and whether there are problematic 6 references between external memory blocks allocated by the external library 7 function.
- 1 13. The computer-readable storage medium of claim 10, wherein the application is a platform-independent virtual machine.
- 1 14. The computer-readable storage medium of claim 10, wherein the application runs in single-threaded mode on a computing device.
- 1 15. The computer-readable storage medium of claim 10, wherein the 2 application runs on a memory-constrained computing device.
- 1 16. The computer-readable storage medium of claim 10, wherein 2 redirecting the call to the internal memory allocation function involves executing 3 an interpose function that calls the internal memory allocation functions.

1	17. The computer-readable storage medium of claim 10, wherein the
2	method further comprises periodically garbage collecting the memory allocated by
3	the internal memory allocation function.
1 2	18. The computer-readable storage medium of claim 10, wherein the internal memory allocation function allocates memory in a heap.
•	19. An apparatus for redirecting external memory allocation
1	operations, generated during calls by an application to external library functions,
2	operations, generated during earls of an application comprising:
3	to an internal memory manager within the application, comprising:
4	an execution mechanism configured to execute a call to an external library
5	function during execution of the application;
6	a determination mechanism configured to determine if the external library
7	function can call to an internal memory allocation function within the application;
8	and
9	a redirection mechanism configured to redirect the call to the internal
10	memory allocation function.
1 2 3 4	whether the external library function can call the internal memory allocation
1	The apparatus of claim 20, further comprising a precomputation

examining the external library function to determine whether the external library

function or a function called by the external library function will call a memory

mechanism configured to precompute the pre-determined indicator value by

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- allocation function, and whether there are problematic references to external memory blocks allocated by the external library function.
- 1 22. The apparatus of claim 19, wherein the application is a platform-2 independent virtual machine.
- 1 23. The apparatus of claim 19, wherein the application runs in singlethreaded mode on a computing device.
- 1 24. The apparatus of claim 19, wherein the application runs on a memory-constrained computing device.
- 1 25. The apparatus of claim 19, wherein the redirection mechanism is 2 further configured to execute an interpose function that calls the internal memory 3 allocation functions.
- 1 26. The apparatus of claim 19, further comprising a garbage collection 2 mechanism configured to periodically garbage collect the memory allocated by the 3 internal memory allocation function.
- 1 27. The apparatus of claim 19, wherein the internal memory allocation 2 function allocates memory in a heap.